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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/620,250	07/15/2003	Hiroshi Teramachi	10116/10	8901

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EXAMINER

KRAUSE, JUSTIN MITCHELL

ART UNIT	PAPER NUMBER
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3682

DATE MAILED: 09/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/620,250

Applicant(s)

TERAMACHI, HIROSHI

Examiner

Justin Krause

Art Unit

3682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s).

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>7/20/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the definition of what is considered "thin" is not within the specification. Also, the first and second ends of the thin central plate portion are undefined.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the first and second ends of the thin central plate portion must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the

renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Response to Amendment

3. The amendment filed July 20, 2006 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the claims as amended define the term "thin" as having a length three times a thickness of the central plate portion, and relies on the drawings for support. The drawings are schematic representations and are not considered scale since they are not noted as such, therefore providing no basis that the idea of a "thin" central plate portion having a length three times a thickness was known at the time of original filing.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

4. Claims 1-10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter

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which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The definition of "thin" as having a length three times a thickness of the central plate portion is not disclosed within the specification and it is unknown if this knowledge was in possession of the claimed feature at the time of original filing.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding the term "thin", thin is a relative term, and it is unclear what constitutes a thin plate. Even assuming the use of the definition, "having a length three times a thickness of the central plate portion", a long length of square bar stock would be considered thin, even if the width and thickness were several feet across.

Claim 10 recites the limitation "said upper and lower track rails" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

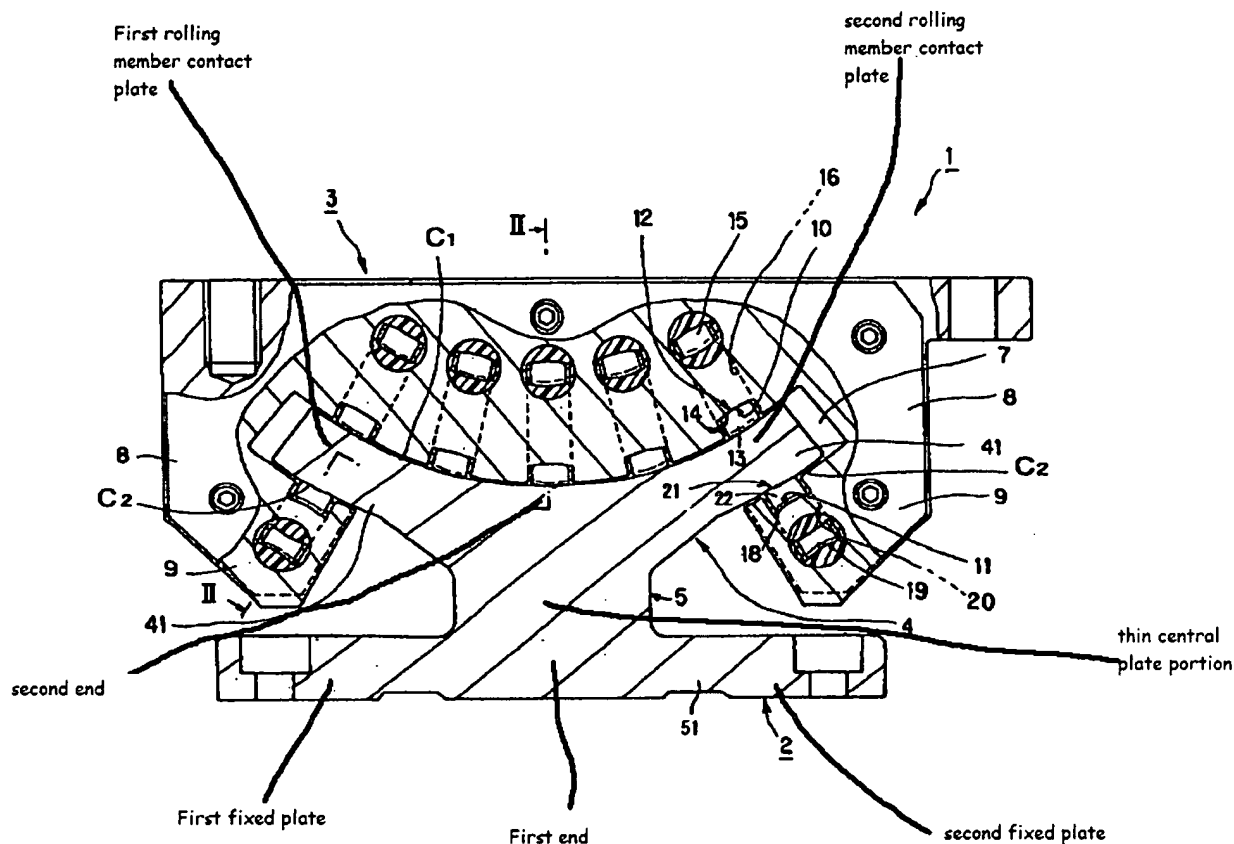
A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 3-7 rejected under 35 U.S.C. 102(b) as being anticipated by Teramachi et al. (US Patent Number 6,312,158).

With respect to claim 1, Teramachi ('158) discloses a roller guide apparatus (1) comprising a track rail comprising a thin central plate portion with first and second ends, first and second rolling member contact plates projecting outwardly from said second end and first and second fixed plates projecting outwardly from said first end (see fig. below), and a movable block (3) having sets of endlessly circulating rolling member rows (5) that are in contact with the first and second rolling member contact plates of the track (column 2, lines 37-44). With respect to the elastically deformable claim limitation, as broadly recited, the rail of Teramachi ('158) is inherently "deformable" due to the physical properties of the material.



With respect to claim 3, Teramachi ('158) discloses the track rail to be an integral structure by drawing.

With respect to claim 4, Teramachi ('158) discloses a circular arc shape of the track rail (column 2, lines 29-33; figure 1, 41).

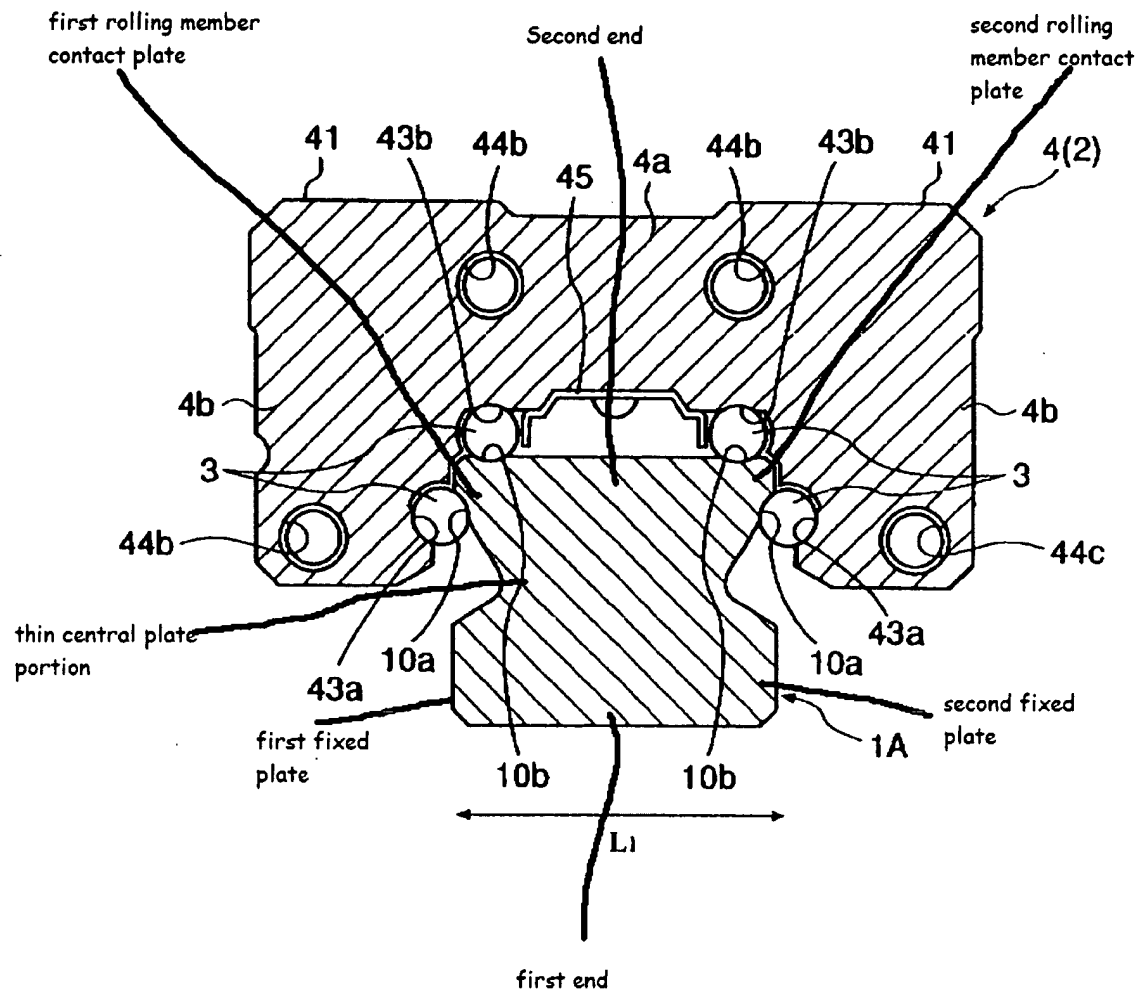
With respect to claim 5, Teramachi ('158) discloses the track rails as being orthogonal to each other allowing the movable structure to move in two orthogonal directions (column 4, lines 5-14, figure 7).

With respect to claim 6, Teramachi ('158) discloses the track rail comprising a rectilinear rail. (column 5, lines 29-33).

With respect to claim 7, Teramachi ('158) discloses the track rail comprising a curvilinear rail (column 5, lines 29-33).

Claims 1,3, and 6-8 rejected under 35 U.S.C. 102(b) as being anticipated by Michioka et al.(US Patent Number 6,488,411).

With respect to claim 1, Michioka('411) discloses a roller guide apparatus (figure 3) comprising a track rail comprising a thin central plate portion with first and second ends, first and second rolling member contact plates projecting outwardly from said second end and first and second fixed plates projecting outwardly from said first end (see fig. below), and a movable block (4) having sets of endlessly circulating rolling member rows (51) that are in contact with the first and second rolling member contact plates of the track (column 14, lines 4-14). With respect to the elastically deformable claim limitation, the rail of Michioka ('411) is inherently deformable due to the physical properties of the material.



With respect to claim 3, Michioka ('411) discloses the track rail as an integral structure by drawing.

With respect to claim 6, Michioka ('411) discloses the track rail comprising a rectilinear rail (1A, column 3, lines 1-5)

With respect to claim 7, Michioka ('411) discloses the track rail comprising a curvilinear rail (1B, column 3, lines 1-5).

With respect to claim 8, Michioka ('411) discloses the rolling members having sets of endlessly circulating member rows that comprise of balls (3, column 14, lines 9-14).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Teramachi ('158) in view of Willard (US Patent Number 1,178,196).

Teramachi ('158) discloses a roller guide apparatus (1) as described above but does not disclose the track rail comprising two separate identical members welded together. Willard ('196) teaches a track comprising two duplicate sections of metal placed back-to-back and riveted together (column 1, lines 28-31). Willard ('196) also teaches that this produces a lighter weight track compared to a solid track of the same dimensions (column 2, lines 64-68). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to produce Teramachi's ('158) track by the following the teachings of Willard ('196) to decrease the weight of the track. With respect to the method of making limitation, the method by which a device is made is given minimal patentable weight within a device claim. "Even though

product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." (MPEP 2113 R-1).

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Teramachi ('158) as applied to claims 1 and 4 above, and further in view of Chen (US Patent Number 6,109,789).

Teramachi ('158) discloses a roller guide apparatus (1) as described above. Teramachi ('158) does not disclose the roller guide apparatus comprising endlessly circulating rolling members located at an upper side and lower side of the projected portions of the track where the upper rolling members are rollers and the lower rolling members are balls. Chen ('789) discloses a linear slide that has rolling elements that include cylindrical roller trains (62), which are carried on the upper surface of the guide rail, and rolling ball trains (61) that are carried on the lateral surfaces of the guide rail. Chen ('789) teaches the service life of balls is shorter than that of rollers; rollers can also support more weight (column 1, lines 18-20 and 30-31). Chen ('789) teaches that by using a rolling ball train a high degree of precision can be maintained (column 1, 16-17).

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Teramachi ('158) roller guide apparatus (1) by using

rollers, along with the existing balls, to create a longer service life while maintaining precision of the movement as taught by Chen ('789).

Claim 10 rejected under 35 U.S.C. 103(a) as being unpatentable over Teramachi ('158) as applied to claim 1 and 5 above, and further in view of Yamagisawa (US Patent Number 6,327,929).

Teramachi ('158) discloses a roller guide apparatus (1) as described above. Teramachi does not disclose the apparatus being fixed to the center of mounting plates. Yamagisawa ('929) teaches that a two-dimensional drive system must consist of a mounting plate for the guides (column 2, lines 50-55). Yamagisawa ('929) teaches the mounting plate helps support the load applied to the moving block (32) and improves the positioning accuracy, the resolution, and high-speed ability of the unit (column 2, lines 41-45).

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Teramachi ('158) to be fixed to a mounting plate to produce greater stability and strength of the apparatus as taught by Yamagisawa ('929).

Response to Arguments

7. Applicant's arguments filed July 20, 2006 have been fully considered but they are not persuasive.

Regarding the definition of "thin", the Examiner has listed the reasons for maintaining the rejection in the section above.

Regarding the 112-2nd paragraph rejection of claim 10, the examiner is unable to locate any previous mention of "upper and lower track rails" in claims 1 or 5 from which claim 10 depends, therefore the phrase lacks antecedent basis and the rejection is maintained.

Applicant argues that both the Teramachi and Michioka references disclose a "thick central plate portion" which is resistant to any sort of elastic deflection.

The examiner disagrees, finding that the material will inherently be capable of undergoing some elastic deformation. While it may be applicant's intent to have an extremely flexible member, such a limitation is currently not claimed in such a way to distinguish the invention over the prior art.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Reciept of the PTO-1449 submitted July 20, 2006 and the Power of Attorney form is acknowledged.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin Krause whose telephone number is 571-272-3012. The examiner can normally be reached on Monday - Friday, 7:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on 571-272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JKR
5/11/06



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